November 1, 2010

Energy and Environment Quarterly

U.S. Department of Commerce; Office of Administrative Services; Office of Sustainable Energy and Environmental Programs

Commerce Releases First Strategic Sustainability Performance Plan

The Department of Commerce (DOC) recently published its first ever Strategic Sustainability Performance Plan (SSPP), a roadmap for managing and reducing the department's environmental impact. The SSPP details how DOC plans to meet federal sustainability goals over the next ten years. It sets targets for reducing energy and water intensity (energy usage per unit area), vehicle fuel use and waste; and increasing the use of renewable power, electronic stewardship and sustainable acquisition to reduce the department's overall carbon footprint.

How will DOC meet its targets? The Commerce headquarters team is leading the way in sustainability and energy efficiency by aiming for Leadership in Energy and Environmental Design (LEED) Gold certification for the renovation of the Herbert C. Hoover Building (HCHB). HCHB management is also implementing an energy and water data management program through an interagency agreement with the National Technical Information Service. This program will enable HCHB to monitor water usage in real time at its headquarters, promoting energy awareness and encouraging conservation.

In FY2009, DOC reduced its energy intensity in buildings by 23.4 percent, nearly twice the target of 12 percent for federal buildings. The department also demonstrated environmental leadership by achieving a 29.3 percent reduction in its fleet petroleum consumption. This is almost four times the federal target of 8 percent. DOC requires 75 percent of all new vehicles purchased to be alternative fuel vehicles, and the National Oceanic and Atmospheric Administration (NOAA) is conducting energy audits of its ships.

The National Institute of Standards and Technology (NIST) in Gaithersburg, Md., is also leading the department's sustainability efforts with its plans to build a net-zero energy residential test facility (NZERTF) and accompanying 600 kilowatt solar array. This American Reinvestment and Recovery Act (ARRA)-funded project will demonstrate the viability of the net-zero energy concept for a residential structure that is similar in size and aesthetics to surrounding homes in the Gaithersburg, area. The NZERTF will generate as much energy on an annual basis as it consumes when operated as a residence occupied by a family of four. The SSPP calls for all new buildings that enter the planning phase after 2020 to be net-zero energy buildings.

Artist's rendering of the planned solar array at NIST Gaithersburg
Courtesy of NIST Office of Facilities and Property Management and the A/E: Global Engineering Systems (GES)

What can you do to help DOC achieve its sustainability goals? Turn off lights and computers when you leave the office. Turn off televisions and ensure that power-saving features are enabled on your computer. Use common sense to save resources like energy and water, and acquire greener products. Get involved in your facility's green team, and pass the word on to your friends and coworkers. Working together, the DOC community can lead the federal government in sustainability.

Links to the DOC and other federal agency SSPPs can be found online at http://www.whitehouse.gov/administration/eop/ceq/sustainability/plans. For more information about DOC's SSPP, contact Bob Scinta, DOC Energy Program Manager, at 202-482-3114.

Inside this issue:

Message from Rob Tomiak, the New Associate Director for Sustainable Energy and Environmental Programs

OSEEP Associate Director Rob Tomiak

I am excited to be a part of the Commerce energy and environmental team as of mid-September. I came to Commerce with a desire to better understand how civilian agencies are set up. My background is almost exclusively Department of Navy and Department of Defense. I retired as a Navy Civil Engineer Corps officer after 21 years of managing facility, energy, environmental, and acquisition programs, and just over a year ago, I embarked upon a second career as a civil servant. I have had the great fortune to travel the world with the military and learn about other countries and cultures. The transition from Department of the Navy to Department of Commerce has me reflecting that I might just now have found another strange and exciting land to explore.

For those of us that are lucky enough to be associated with the energy and environmental career fields, you can surely appreciate that we are tackling some of the nation's highest priorities. We can all take pride in knowing that in our jobs, we make a positive difference each day as we properly dispose of hazardous waste, reduce energy consumption, install a solar panel, complete an environmental assessment that helps our agency avoid environmental impacts, successfully complete consultation on a project to renovate a historic property, recycle an aluminum can, reduce water consumption, or any of the multitude of other environmentally conscientious things we do, because we're good at it and we care about the planet.

It has been my priority to get around to the other operating units, and I'm happy to report that I am on track to do this before my two month point. Each visit I've made to offices within Commerce headquarters as well as out to operating unit headquarters has helped me understand the significance of Commerce's diverse mission. Along the way, I've had the pleasure of meeting many of the talented people this agency has in our career field, throughout our extended family of consultants, and within the network of colleagues at other federal agencies. I look forward to working with all of you in meeting the challenges the future holds for us.

National Ocean Service's NCCOS Oxford lab Goes Green

This summer the National Centers for Coastal Ocean Science (NCCOS)'s Cooperative Oxford Laboratory in Oxford, Md., enhanced its green image by installing a rain garden, pervious walkways, rain barrels, and tankless hot water heaters.

Replacing a portion of their lawn with a rain garden has provided the Oxford lab several tangible benefits. Rain gardens collect rainwater from a surrounding drainage area and allow it to percolate slowly through the soil rather than running directly into a stream. This reduces flash flooding and erosion and filters out pollutants. The Oxford lab's rain garden was planted at the lowest point in the laboratory's grassed outdoor courtyard where water had been pooling, thus alleviating a drainage problem.

Lawns require high energy inputs in the form of fertilizer, power equipment, and staff time. The rain garden, in contrast, was planted with self-sustaining native plants, which require no fertilizer or irrigation, and provide habitat for butterflies, other insects, and even the unusual hummingbird moth!

The rain barrels will retain runoff from the roof of the main facility and be used for discretionary water distribution to the gardens. The pervious pavers will alleviate stormwater runoff from the parking lot by allowing water to percolate through the soil.

Several deciduous trees were planted as part of this project, and as they mature, they will shade the buildings during the summer, saving an estimated 30 percent or $2,100 in cooling costs from May to October. Mature trees provide the added benefit of trapping air pollutants such as carbon dioxide, sulfur dioxide, ozone and nitrogen oxide. The shade trees will also reduce atmospheric carbon immediately by 318 pounds per year. As the trees reach maturity, this figure will increase exponentially to more than ten times this amount, ridding the atmosphere of more than 3,000 pounds of carbon annually.

The Oxford Lab's new rain garden

The Oxford lab also expects to save 4,800 kwh or $864 per year from the switch to tankless hot water heaters. This represents a savings of 50 percent over the cost of conventional hot water heaters.

Finally, the Oxford lab will educate students and teachers about the benefits of rain gardens by featuring their rain garden as part of the outdoor classroom for its new Environmental

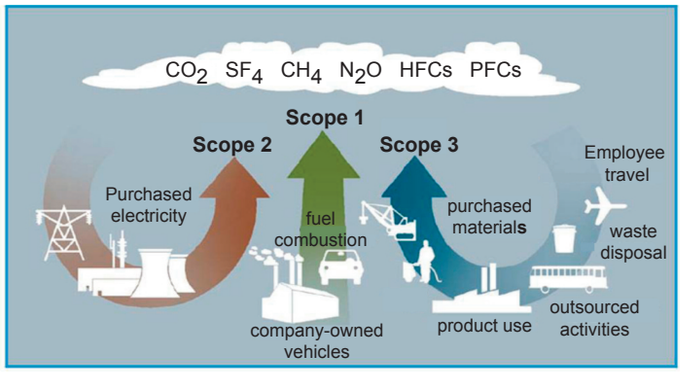
Continued on page 4

Commerce Commits to Reducing Greenhouse Gas Emissions

As part of its Strategic Sustainability Performance Plan (SSPP), the Department of Commerce (DOC) has committed to reducing its greenhouse gas (GHG) emissions from vehicle use and purchased energy sources (called scope 1 and scope 2 emissions) 21 percent by 2020 and has committed to reducing GHG emissions from other indirect sources (called scope 3 emissions) 6 percent by 2020. DOC's strategy for reducing greenhouse gas emissions calls for increasing energy efficiency in buildings, the use of alternative fuels in the fleet, and encouraging sustainable transportation alternatives for employee commuting.

GHGs, including carbon dioxide (CO_2), methane, and a variety of other compounds, warm the planet by trapping solar radiation. President Obama has mandated that federal agencies begin tracking and reducing their GHG emissions in FY 2010 relative to a FY2008 baseline. This is the first time an organization as large as the U.S. federal government has attempted to track scope 3 GHG emissions.

The department estimates its total GHG emissions at 414,406 metric tons of carbon dioxide equivalents ($mtCO_2e$) per year, excluding the indirect emissions from DOC's supply chain and contractors. This equates to the amount of GHGs released to the atmosphere annually by 71,882 passenger vehicles on the road or the annual electricity use of 4,559 homes, according to the Environmental Protection Agency's online greenhouse gas equivalencies calculator. The EPA also estimates that it would take 80,158 acres of forest to trap this amount of CO_2 and mitigate for DOC's emissions.



Classification system for greenhouse gas emissions.

What are the most significant sources of DOC's greenhouse gas emissions? DOC's calculations for FY2008 show electricity use topping the list at 329,351 megawatt hours or 211,230 mtCO2e consumed annually, or 76 percent of scope 1 and 2 emissions. Employee commuting came in second and accounted for 66 percent of scope 3 emissions or 75,130 $mtCO_2e$ in 2008. Natural gas consumption is the third largest source of DOC's greenhouse gas emissions, accounting for an estimated 50,239 $mtCO_2e$ annually or 18 percent of scope 1 and 2 emissions.

How will DOC reduce its greenhouse gas emissions? One key strategy is increasing energy efficiency in buildings. DOC will require that new buildings and leases comply with the *Five Guiding Principles for High Performance and Sustainable Buildings*, which mandate cutting-edge energy efficiency technology. In 2011, NIST's Gaithersburg campus will replace 40-year-old single pane windows with double pane, low energy, argon gas-filled windows, install new energy efficient lighting and occupancy sensors, and replace 40-year-old energy inefficient fume hoods with state-of-the art energy efficient hoods. Data centers are very energy-intensive operations, and DOC is projecting energy savings of nearly 11 million kilowatts and $720,881 from its plan to consolidate 26 data centers over the next five years.

DOC will also increase its use of renewable energy. NIST is installing a $5 million solar array project for its Gaithersburg campus that will generate up to 600 kilowatts of electricity per hour and a $1.4 million solar array in Hawaii in FY2011.

NOAA will also continue to fund renewable energy generation projects through its Green Grants program. Among other projects, this year NOAA funded the installation of solar parking lot light-emitting diode (LED) lights at its Beaufort, N.C. laboratory, projected to save 52,000 kwh per year; a roof-mounted solar cell array at its Humpback Whale National Marine Sanctuary in Hawaii, which is projected to generate 21,000 kWh per year or 30 percent of the site's electricity; and a ground source heat pump system at the Elko, Nevada, Weather Forecast Office which will meet 100 percent of the site's energy needs and has a projected payback period of just 3 years!

DOC will also reduce employee commuting by promoting alternative work schedules, ridesharing, and commuting by bicycle or foot. The department estimated that in FY2008, employees commuted a total of 727,837 miles per day by car or truck, compared to only 217,238 miles by public transit or carpooling and 14,535 miles walking or biking. The U.S. Patent and Trademark Office (PTO) leads the federal government with its sophisticated telecommuting program, other DOC operating units are examining PTO's strategy for reducing employee commutes.

DOC also plans to right-size its fleet, eliminating under-used vehicles and maximizing the use of alternative fuel and low-speed electric vehicles.

For more information on DOC's greenhouse gas emissions targets and initiatives, contact DOC Energy Program Manager Bob Scinta at 202-482-3114 or rscinta@doc.gov.

Sustainability Tip: Bike to Work

Are you looking for a way to stay fit, save money, and reduce your carbon footprint all at the same time? Riding your bicycle to work is the perfect solution!

Cycling will get you where you need to go and give you all the benefits of a good workout. Exercise burns calories and relieves stress. On a bike, you can avoid rush hour traffic jams, saving yourself time and frustration. Besides biking to work, you can also bike to off-site meetings, to run errands, or just to relax on your lunch break!

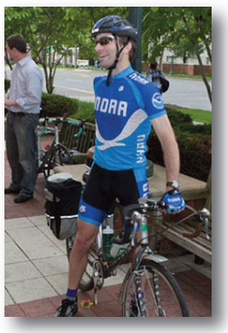
Bicycling is as good for the environment as it is for your health. A recent assessment of the Department of Commerce's (DOC's) greenhouse gas emissions highlighted employee commuting as the largest Department-wide source of emissions. Biking produces zero carbon emissions. Every gallon of gasoline saved by biking prevents 20 pounds of carbon dioxide from release into the atmosphere.

And don't forget all the money you'll save on parking, metro fare, and/or gas.

Many DOC facilities in the Washington, D.C. metro area accommodate bikers. The Herbert C. Hoover Building, the National Oceanic and Atmospheric Administration (NOAA) Silver Spring Metro Center (SSMC), and the National Institute of Standards and Technology Gaithersburg campus all provide secure bicycle parking for staff and contractors along with separate men's and women's showers and locker rooms for use by bicycle commuters. The U.S. Patent and Trade Office Randolph Square building also provides bicycle parking.

NOAA even has an incentive program for bicycle commuters at the SSMC. Registered users earn $5 coupons to spend at local merchants for every 100 miles they cycle. You can even buy NOAA cycling team jerseys at www.noaacycling.org!

Over the last few years, the D.C. Department of the Environment has installed several new bike lanes and paths in order to make bicycling easier and safer in the District. In September, D.C. also launched the Capital Bikeshare program, which by December will provide 1,100 bicycles at 110 stations across the D.C. area.



NOAA contractor Philippe Hensel sports his NOAA bicycling jersey on Bike to Work Day 2010. Photo courtesy of Derek Parks.

For more information on bicycling to work, visit www.noaacycling.org, the Washington Area Bicycling Association at www.waba.org, or contact Greg Falzetta in the DOC's Office of Sustainable Energy and Environmental Programs at 202-482-1080.

Did You Know...

• The Department of Commerce (DOC)'s Energy, Environmental, and Transportation Division underwent a recent reorganization. The transportation program has moved to the Office of Commerce Services, under Director Marilyn Stoll, and the rest of the division has become the Office of Sustainable Energy and Environmental Programs (OSEEP).

Barrow, AK Weather Service Office

• Congratulations to the National Weather Service for certifying two Leadership in Energy and Environmental Design (LEED) Silver buildings over the summer: the Sterling, Va. weather forecast office and the Barrow, Alaska weather service office (WSO). Located 340 miles north of the arctic circle, the Barrow WSO is the northernmost LEED-certified building in the country!

Rain Garden, con't

Science and Education building. Taken together, these relatively small projects add up to significant environmental benefits.

This project was funded by NOAA's Green Grants program, which provides up to $30,000 in matching funds for projects to green NOAA facilities. The grant program is designed to stimulate internal greening efforts within NOAA by partially offsetting investment costs required to achieve energy or conservation objectives.

For more information about the Oxford Lab's greening efforts, contact Jay Lewis at (410) 226-5193 x119 or jay.lewis@noaa.gov.

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